

REMARKS

Favorable reconsideration of this application in view of the remarks to follow is respectfully requested.

Before addressing the outstanding grounds of rejection, Applicants take this opportunity to discuss the Examiner's comments in the Advisory Action dated November 30, 2009. The Examiner objects to the term "at least one porous Si-containing region" and suggests that the term "at least one" be deleted. In response to the Examiner's comments, Applicants have amended Claims 26, 31 and 36 to remove the terms "at least one" from the limitation "at least one Si-containing region."

Referring to paragraph 2 on page 2 of the Advisory Action, the Examiner appears to object to the use of the term "now contains voids". Applicants observe that the objected terms were amended into the independent claims in response to the Examiner's recommendation in paragraph 1 of page 5 of the Final Office Action dated September 15, 2009. The Examiner states that the present objection to the claims may be overcome by amending the independent claims to recite that the voids are "created by the collapse of previously existing pores in the Si-containing region". Support for this amendment to Claims 26, 31 and 36 are found in paragraph [0043] of Applicants' disclosure. In light of the amendment to Claims 26, 31 and 36, dependent Claims 27, 32, and 37 are now cancelled.

Referring to paragraph 2 on page 2 of the Advisory Action, the Examiner asserts that the porosity recited in Claims 26, 31 and 36 would "essentially encompass virtually all Si-containing semiconductor materials in the real world". The Examiner notes that the Examiner's objection would be overcome by amending the claims to recite "forming a porous Si-containing region via electrolytic anodization of a Si-containing region having n-type or p-type dopant". Support for

this amendment to Claims 26, 31 and 36 is found in paragraphs [0012], [0013] and [0026]-[0033] of Applicants' disclosure. In light of this amendment to Claims 26, 31 and 36, Applicants have cancelled dependent Claims 28, 34 and 40. Claims 34 and 35 have been amended to change dependency to Claim 31.

Applicants have also amended Claims 26, 31 and 36 as suggested by the Examiner in the final paragraph of page 2 of the Advisory Action to recite the limitation of "said implanted oxygen ions precipitate as oxides". Turning to the present grounds of rejection.

Rejection of Claims 26-42 under 35 U.S.C. § 112, second paragraph.

In the Final Office Action, Claims 26-42 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Referring to the second paragraph of page 4 of the Final Office Action, the Examiner asserts that the terms "Si-containing substrate" and "forming... into said wafer" have no clear relationship to one another. In light of the Examiner's comments, Applicants have amended Claim 26, 31 and 36 in the now entered § 1.116 Response ("1.116 Response") dated November 16, 2009 to remove the term "wafer". Claim 26 has been amended to recite the limitation of "implanting oxygen ions into at least the porous silicon region". Support for this amendment is found in paragraph [0037] of Applicants' disclosure. Similar amendments have been made to Claims 31 and 36. In light of the amendments to Claims 26, 31 and 36, Applicants submit that the Examiner's objection presented in the second paragraph of page 4 of the Final Office Action has been obviated.

Referring to the third paragraph on page 4 of the Final Office Action, the Examiner has alleged that the term "the oxygen peak" lacks antecedent basis, and alleges that the term "peak"

lacks clear context. The Examiner suggests that the claim limitation be redrafted to express “wherein a peak oxygen amount [or concentration] of oxygen from the oxygen ion implanting, it is located...” In light of the Examiner’s suggestion, Applicants’ have amended Claims 26, 31 and 36 in the § 1.116 Response, to recite “wherein a peak oxygen content is provided by the implanting of the oxygen ions, and is within said porous Si-containing region or at an interface between said single crystal Si-containing layer and said porous Si-containing region”. In light of the amendments to Claims 26, 31 and 36, Applicants submit that the Examiner’s objection presented in the third paragraph of page 4 of the Final Office Action has been obviated.

Referring to paragraph 2 of page 5 of the Final Office Action, the Examiner objects to the preamble of Claims 26, 31 and 36, as allegedly creating uncertainty in light of the claim limitations to “said silicon-containing substrate” and “said wafer”. First, the term “wafer” has been removed from the body of the claim. Second, the claim has been amended to recite “a method of fabricating a substrate”. Third, the preamble is a limitation to the claim when it breathes “life and meaning” into the claim. The preamble of Claims 26, 31 and 36 does not breathe life and meaning into the claim, because the preamble is not adding a limitation to the claim that is not outside the scope of the limitations that are recited in the body of the claim. In light of the amendments to Claims 26, 31 and 36 that were included in the 1.116 Response, Applicants submit that the Examiner’s objection presented in the second paragraph of page 5 of the Final Office Action has been obviated.

Turning to the second paragraph of page 6, the Examiner objects to the limitation “a plurality of uniform buried oxide regions”, as recited in Claim 31, which the Examiner asserts is inconsistent with Applicant’s definition for the term “uniform”. In the interest of advancing prosecution, Applicant’s have amended Claim 31 in the § 1.116 Response to recite a method that

includes the step of forming “a plurality of buried oxide islands, in which a variation in thickness of the buried oxide islands across an entire width of the buried oxide islands is less than 30% of a total thickness of the buried oxide islands”. Support for this amendment to Claim 31 is found in paragraph [0053] and Figure 3b of Applicants’ disclosure. In light of the amendment to Claim 31, Applicants submit that the Examiner’s objection presented in the second paragraph of page 6 of the Final Office Action has been obviated.

In view of the present amendments to Claims 26, 31 and 36, and the above remarks, Applicants respectfully submit that the rejection of Claims 26-42 under 35 U.S.C. § 112, second paragraph have been obviated, and respectfully request withdrawal thereof.

Rejection of Claims 26-42 under 35 U.S.C. § 112, first paragraph.

Claims 26-42 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Referring to page 7 of the Final Office Action, the Examiner asserts that Claims 26, 31 and 36 have been amended in a manner that is not supported by the specification. To summarize the Examiner’s argument, it appears that the Examiner’s position is that instead of the claim reciting “forming a porous Si-containing layer”, as presently drafted, the Claims 26, 31, and 36 allegedly need to recite specific methods disclosed in paragraphs [0027] to [0033] of Applicants’ specification. For the purposes of advancing prosecution, Applicants have amended Claims 26, 31 and 36 in the present response to recite “forming a porous Si-containing region via electrolytic anodization of a Si-containing region having n-type or p-type dopant”. The present amendment to Claims 26, 31 and 36 obviates the 35 U.S.C. § 1.112, first paragraph rejection.

Claims 26-42 stand rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to provide enablement for the claimed invention. *See* page 9 of the Final Rejection. Specifically,

the Examiner alleges that while the specification is enabling for oxygen ion implantation into the porous silicon regions, the specification allegedly does not reasonably provide enablement for oxygen atom implantation into the porous silicon regions. Applicants note that Claims 26, 31 and 36 have been amended in the § 1.116 response to remove the term “atom”, and recite “oxygen ion implantation”. In light of the amendment to Claims 26, 31 and 36, Applicants submit that the present § 112 rejection has been obviated.

Claims 31-42 stand rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to provide enablement for the claimed invention. *See* page 10 of the Final Rejection. In traversing the enablement rejection, Applicants submit that the Examiner has failed to fulfill the requirements for a prima facie case of non-enablement. Therefore, no burden has passed to the Applicants to respond.

Applicants respectfully submit that the Office has, by only providing a mere conclusion of non-enablement, failed to satisfy its burden to articulate a prima facie case. Without adequate notice of the basis of this rejection, the burden to rebut with evidence and/or argument has not yet shifted to Applicant.

The MPEP repeatedly warns that the Office bears always an initial burden of establishing a prima facie case when making an enablement rejection. *See, e.g.,* MPEP §§ 706.03, 2164.04. A prima facie case of nonenablement is only satisfied when the Office establishes a reasonable basis as to why the scope of protection provided by a claim is not adequately enabled by the disclosure. *See* MPEP § 2164.04. This requires that the Office make specific findings of fact, supported by evidence, and then draw conclusions based on those findings of fact. *See* MPEP § 2164.04. This requires, at a minimum, discussion of those Wands factors, reasons, and evidence that lead the Examiner to conclude that the specification fails to teach how to make and use the

claimed invention without undue experimentation, or that the scope of any enablement provided to one skilled in the art is not commensurate with the scope of protection sought by the claims. *Id.* Simply put, mere conclusory statements are insufficient to support an enablement rejection and must be based on evidence, not mere opinion. *See* MPEP § 2164.05.

It is also well settled that the burden to respond only shifts to an Applicant after the Office has established a prima face case, which requires that the Office: (1) weigh all the evidence; and (2) establish a reasonable basis to question the enablement provided for the claimed invention. *See* MPEP § 2164.05.

A review of the Office Action reveals only the mere conclusion that “the specification, while being enabling for forming a single uniform buried oxide layer (or region) via the taught process of plural buried oxide regions all on the same level or layer in a substrate, does not reasonably provide enablement for forming two or more uniform buried oxide layers (or regions) via the taught proves, which by definition must be different layers or levels in the substrate”. *See* second paragraph of page 10 of the Office Action. Missing, for example, is any discussion of even a single Wands factor or any indication that any evidence has been weighed, as the MPEP expressly requires. *See* MPEP § 2164.01(a). Indeed, the rejection is devoid of any evidence or technical reasons as to why the disclosure fails to enable the claimed invention. Rather, the provided “reason” is a mere conclusion, which the MPEP expressly warns is insufficient to support this rejection. *See* MPEP §§ 706.03, 2164.05.

The Office’s failure to meet its burden to articulate a “reasonable basis” challenging the enablement of Claim 31 alone is fatal to this rejection since Applicants are under no burden to rebut it. *See* MPEP §§ 706.03, 2164.05). For this reason, this rejection is traversed.

Accordingly, Applicants respectfully request favorable reconsideration and withdrawal of the rejection of Claims 31-42 under the first paragraph of 35 U.S.C. § 112.

In the event that the Office maintains this rejection, Applicants respectfully request, in accordance with the principles of compact prosecution, that the Office fully develop the reasons for this rejection by articulating, on the record, those factors, reasons, and evidence that lead it to conclude that the specification fails to teach how to make and use the claimed invention without undue experimentation, or that the scope of any enablement provided to one skilled in the art is not commensurate with the scope of protection sought by the claims. *See* MPEP § 2164.04.

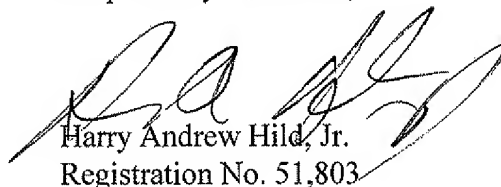
Objection to Claim 38 under 37 C.F.R. § 1.75(c)

Claim 38 has been cancelled.

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the pending claims of the instant application are patentable.

In light of the foregoing remarks, Applicants respectfully requests reconsideration and allowance of the pending claims in this application.

Respectfully submitted,


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